two samples: $x_{1,2} \sim N(0, \sigma_{1,2})$ of lengths n_1, n_2,

$$H_0: \quad \sigma_{1,2} = \sigma_0 (1 + \varepsilon), \quad \varepsilon \sim TSP(p_\varepsilon), \quad E(\varepsilon) = 0, \quad V(\varepsilon) = \sigma_\varepsilon,$$

$$pdf_{TSP}(x) = \sigma_0 \begin{cases} \frac{p_\varepsilon}{2x_0} \left(1 + \frac{x}{x_0}\right)^{p_\varepsilon - 1}, & -x_0 < x < 0, \\ \frac{p_\varepsilon}{2x_0} \left(1 - \frac{x}{x_0}\right)^{p_\varepsilon - 1}, & 0 \le x < x_0, \\ 0, & x = \pm x_0, \quad p_\varepsilon > 1, \end{cases} \qquad x_0 = \sqrt{\frac{(p_\varepsilon + 1)(p_\varepsilon + 2)}{2}}.$$

Tests: Fisher (ratio of sample variances), Link (ratio of sample ranges).

$\frac{\sigma_\varepsilon}{\sigma_0}$	n	p_ε	Fisher test		Link test	
			C_1	C_2	C_1	C_2
0.10	10	0.7	0.224	4.472	0.451	2.217
		1.0	0.224	4.472	0.451	2.217
		2.0	0.223	4.479	0.451	2.218
		3.0	0.223	4.482	0.451	2.219
		10.0	0.222	4.496	0.450	2.222
		$N(0, \sigma_\varepsilon)$	0.223	4.483	0.451	2.220
	15	0.7	0.294	3.396	0.509	1.964
		1.0	0.294	3.399	0.509	1.964
		2.0	0.294	3.404	0.509	1.965
		3.0	0.293	3.408	0.508	1.966
		10.0	0.292	3.422	0.508	1.970
		$N(0, \sigma_\varepsilon)$	0.293	3.409	0.508	1.967
	20	0.7	0.340	2.939	0.542	1.845
		1.0	0.340	2.941	0.542	1.845
		2.0	0.339	2.948	0.542	1.846
		3.0	0.339	2.953	0.541	1.848
		10.0	0.337	2.967	0.540	1.851
		$N(0, \sigma_\varepsilon)$	0.338	2.954	0.541	1.848
0.20	10	0.7	0.168	5.948	0.394	2.541
		1.0	0.167	5.981	0.393	2.547
		2.0	0.164	6.084	0.390	2.567
		3.0	0.162	6.173	0.387	2.583
		10.0	0.156	6.413	0.380	2.632
		$N(0, \sigma_\varepsilon)$	0.161	6.194	0.386	2.588
	15	0.7	0.211	4.748	0.436	2.295
		1.0	0.209	4.784	0.434	2.303
		2.0	0.204	4.893	0.430	2.325
		3.0	0.201	4.978	0.427	2.342
		10.0	0.193	5.183	0.419	2.388
		$N(0, \sigma_\varepsilon)$	0.200	4.992	0.426	2.346
	20	0.7	0.236	4.243	0.458	2.182
		1.0	0.234	4.282	0.457	2.190
		2.0	0.228	4.396	0.452	2.214
		3.0	0.223	4.485	0.448	2.233
		10.0	0.214	4.674	0.439	2.277
		$N(0, \sigma_\varepsilon)$	0.223	4.491	0.447	2.236

Table 1: Critical values, $P_0 = 0.95$